

UMBC

CHEMICAL, BIOCHEMICAL & ENVIRONMENTAL ENGINEERING



FACULTY RESEARCH AREAS:

Biomaterial Engineering

Sensors and Monitoring

Environmental Treatment and Remediation

Bioprocess Engineering

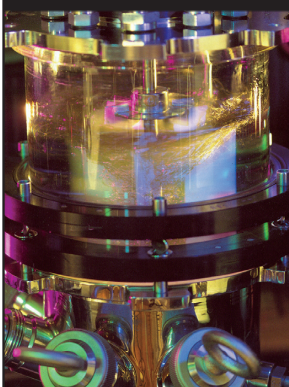
Cellular Engineering

Environmental Fate and Transport

Water Resources

Air Pollution Chemistry

Systems Biology & Functional Genomics



APPLY FOR FREE!

The Department of Chemical, Biochemical and Environmental Engineering at UMBC is pleased to offer citizens and permanent residents of the United States and Canada, and students receiving degrees from U.S. and Canadian institutions, the opportunity to apply for admission to our Ph.D. program without admission fees. Details are available on our website (cbee.umbc.edu).

PROGRAM DESCRIPTION:

Students pursuing graduate degrees in the Department of Chemical, Biochemical and Environmental Engineering are offered a broad range of research opportunities that apply chemical and environmental engineering principles to problems that are important in today's society. Examples of these research opportunities include the development of novel strategies to remove pharmaceuticals from treated wastewater, understanding the fate and transport of toxic organic compounds in the Chesapeake Bay, developing new bioprocess strategies for the rapid production and purification of biopharmaceuticals, and producing new materials and sensors to enable the development of engineered tissues.

DEGREES OFFERED

M.S. (thesis and non-thesis)

Ph.D.

Accelerated B.S./M.S.

Post-Baccalaureate Certificate in Biochemical Regulatory Engineering

LOCATION

UMBC is a suburban campus, located in the Baltimore-Washington corridor, with easy access to both metropolitan areas. A number of government research facilities such as NIH, FDA, USDA, NSA, and a large number of biotechnology companies are located nearby and provide excellent opportunities for research interactions.

TENURE AND TENURED-TRACK FACULTY

BLANEY, LEE, Ph.D., University of Texas at Austin; Water/wastewater treatment, pharmaceuticals and personal care products

FREY, DOUGLAS, Ph.D., University of California, Berkeley; Bioseparations, Chromatography

GHOSH, UPAL, Ph.D., State University of New York at Buffalo; Fate and transport of toxic organic compounds, remediation of sediments

HENNIGAN, CHRISTOPHER, Ph.D., Georgia Institute of Technology; Air pollution chemistry, atmospheric aerosols

LAVIK, ERIN, Sc.D., Massachusetts Institute of Technology; Diseases of the central nervous system including spinal cord injury and retinal degeneration

LEACH, JENNIE, Ph.D., University of Texas at Austin; Biomaterials, 3-D tissue engineering, stem cells

MARTEN, MARK, Ph.D., Purdue University; Cellular engineering, proteomics, systems biology, bioprocessing

MOREIRA, ANTONIO, Ph.D., University of Pennsylvania; Fermentation, cell culture, regulatory science

RAO, GOVIND, Ph.D., Drexel University; Biosensor development for bioprocessing, environmental and medical applications

REED, BRIAN, Ph.D., State University of New York at Buffalo; Physicochemical processes, sorption of organics and inorganics

SZETO, GREGORY, Ph.D., Johns Hopkins University; Drug delivery, biomaterials, and systems biology

WELTY, CLAIRE, Ph.D., M.I.T.; Groundwater flow and transport, urban hydrology

XU, PENG, Ph.D., Rensselaer Polytechnic Institute; Metabolic cost, evolutionary stability and ecological interactions of cell metabolism

INSTRUCTIONAL FACULTY

CASTELLANOS, MARIAJOSE, Ph.D., Cornell University; Systems biology, engineering education

DAS, GAUTOM, Ph.D., Nanyang Technological University; Development of Biosensors and Theranostic Applications

RAIKAR, NEHA, Ph.D., University of Massachusetts Amherst; Manufacturing, consumer product formulation, mathematical modeling and process optimization

RESEARCH PROFESSORS

KOSTOV, YORDAN, Ph.D., Bulgarian Academy of Sciences; Low-cost optical sensors, instrumentation development, biomaterials

TOLOSA CROUCHER, LEAH, Ph.D., University of Connecticut, Storrs; Fluorescence based sensors, protein engineering, biomedical diagnostics, molecular switches

RESEARCH ASSOCIATE PROFESSOR

GE, XUDONG, Ph.D., UMBC; Sensor matrix development, dialysis based sensor

RESEARCH ASSISTANT PROFESSORS

GURRAMKONDA, CHANDRASEKHAR, Ph.D. Nagarjuna University; Cell free expressions, molecular and cell biology vaccines

PILLI, MANOHAR, Ph.D. Osmania University; Autophagy mechanisms in innate immunity

CONTACT:

Graduate Program Director
UMBC Chemical, Biochemical and Environmental Engineering

1000 Hilltop Circle, ENG 314
Baltimore, MD 21250

Phone: 410-455-3400

Email: cbegrad@umbc.edu

cbee.umbc.edu